OCT 0 5 2001

TECH CENTER 1600/2900

OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/475,158

DATE: 08/14/2001

TIME: 12:17:16

#11

Input Set : A:\0609 4780001 seq list.txt
Output Set: N:\CRF3\08142001\I475158.raw

```
ENTERED
 4 <110> APPLICANT: Gardella, Thomas J.
        Kronenberg, Henry M.
 5
        Potts, John T.
 6
        Juppner, Harald
 7
 9 <120> TITLE OF INVENTION: PTH Functional Domain Conjugate Peptides, Derivatives
        Thereof and Novel Tethered Ligand-Receptor Molecules
12 <130> FILE REFERENCE: 0609.4780001
14 <140> CURRENT APPLICATION NUMBER: US 09/475,158
15 <141> CURRENT FILING DATE: 1999-12-30
17 <150> PRIOR APPLICATION NUMBER: US 60/114,577
18 <151> PRIOR FILING DATE: 1998-12-31
20 <160> NUMBER OF SEQ ID NOS: 67
22 <170> SOFTWARE: PatentIn Ver. 2.1
24 <210> SEO ID NO: 1
25 <211> LENGTH: 9
26 <212> TYPE: PRT
27 <213> ORGANISM: Homo sapiens
29 <400> SEQUENCE: 1
30 Ala Val Ser Glu Ile Gln Leu Met His
     1
34 <210> SEQ ID NO:
                    2
35 <211> LENGTH: 17
36 <212> TYPE: PRT
37 <213> ORGANISM: Homo sapiens
39 <400> SEQUENCE: 2
40 Leu Asn Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp
                                        10
     1
41
43 Val
47 <210> SEQ ID NO: 3
48 <211> LENGTH: 31
49 <212> TYPE: PRT
50 <213> ORGANISM: Artificial Sequence
52 <220> FEATURE:
53 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
54
         sequence
56 <400> SEQUENCE: 3
57 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Leu Asn
                                        10
                                                            15
60 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
                                    25
                20
61
64 <210> SEQ ID NO: 4
65 <211> LENGTH: 5
66 <212> TYPE: PRT
67 <213> ORGANISM: Homo sapiens
69 <400> SEQUENCE: 4
70 Ala Val Ser Glu Ile
71
```

DATE: 08/14/2001

```
PATENT APPLICATION: US/09/475,158
                                                       TIME: 12:17:16
                Input Set : A:\0609 4780001 seq list.txt
                Output Set: N:\CRF3\08142001\I475158.raw
74 <210> SEQ ID NO: 5
75 <211> LENGTH: 31
76 <212> TYPE: PRT
77 <213> ORGANISM: Artificial Sequence
79 <220> FEATURE:
80 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH \smile
         sequence
81
83 <400> SEQUENCE: 5
84 Ala Val Ser Glu Ile Gly Gly Gly Gly Gly Gly Gly Gly Leu Asn
                     5
87 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Leu Gln Asp Val
                                    25
       · 20
91 <210> SEQ ID NO: 6
92 <211> LENGTH: 31
93 <212> TYPE: PRT
94 <213> ORGANISM: Artificial Sequence
96 <220> FEATURE:
97 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
        sequence
100 <400> SEQUENCE: 6
101 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Gly Gly
                                        10
                    5
104 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Leu Gln Asp Val
                                    25
108 <210> SEQ ID NO: 7
109 <211> LENGTH: 9
110 <212> TYPE: PRT
111 <213> ORGANISM: Homo sapiens
113 <400> SEQUENCE: 7
114 Ala Val Ser Glu His Gln Leu Leu His
118 <210> SEQ ID NO: 8
119 <211> LENGTH: 17
120 <212> TYPE: PRT
121 <213> ORGANISM: Homo sapiens
123 <400> SEQUENCE: 8
124 Ile Gln Asp Leu Arg Arg Phe Phe Leu His His Leu Ile Ala Glu
                      5
125
      1
127 Ile
131 <210> SEQ ID NO: 9
132 <211> LENGTH: 31
133 <212> TYPE: PRT
134 <213> ORGANISM: Artificial Sequence
136 <220> FEATURE:
137 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH m \omega
          sequence
140 <400> SEQUENCE: 9
141 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Leu Asn
                                         10
```

RAW SEQUENCE LISTING

DATE: 08/14/2001

```
TIME: 12:17:17
                PATENT APPLICATION: US/09/475,158
                Input Set : A:\0609 4780001 seq list.txt
                Output Set: N:\CRF3\08142001\I475158.raw
144 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Leu Gln Asp Val
                                     25
                 20
148 <210> SEQ ID NO: 10
149 <211> LENGTH: 5
150 <212> TYPE: PRT
151 <213> ORGANISM: Homo sapiens
153 <400> SEQUENCE: 10
154 Ala Val Ser Glu His
      1
155
158 <210> SEQ ID NO: 11
159 <211> LENGTH: 31
160 <212> TYPE: PRT
161 <213> ORGANISM: Artificial Sequence
163 <220> FEATURE:
164 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
          sequence
167 <400> SEQUENCE: 11
168 Ala Val Ser Glu Ile Gln Leu Met His Gly Gly Gly Gly Gly Gly
                      5
171 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
                                     25
                 20
172
175 <210> SEQ ID NO: 12
176 <211> LENGTH: 15
177 <212> TYPE: PRT
178 <213> ORGANISM: Homo sapiens
180 <400> SEQUENCE: 12
181 Asp Leu Arg Arg Phe Phe Leu His His Leu Ile Ala Glu Ile
                      5
182
185 <210> SEQ ID NO: 13
186 <211> LENGTH: 31
187 <212> TYPE: PRT
188 <213> ORGANISM: Artificial Sequence
190 <220> FEATURE:
191 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
192
          sequence
194 <400> SEQUENCE: 13
195 Ala Val Ser Glu Ile Gly Gly Gly Gly Gly Gly Gly Gly Leu Asn
                      5
198 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val
                                                          30
                                      25
                 20
199
202 <210> SEQ ID NO: 14
203 <211> LENGTH: 93
204 <212> TYPE: RNA
205 <213> ORGANISM: Artificial Sequence
207 <220> FEATURE:
208 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH
          sequence
209
211 <400> SEQUENCE: 14
212 gcuguuuccg aaauccagcu gaugcacggu ggugguggug gucugaacuc cauggaacgu 60
```

RAW SEQUENCE LISTING

93

DATE: 08/14/2001 RAW SEQUENCE LISTING TIME: 12:17:17 PATENT APPLICATION: US/09/475,158 Input Set : A:\0609 4780001 seq list.txt Output Set: N:\CRF3\08142001\I475158.raw 93 213 guugaauggc ugcguaaaaa acugcaggac guu 216 <210> SEQ ID NO: 15 217 <211> LENGTH: 93 218 <212> TYPE: RNA 219 <213> ORGANISM: Artificial Sequence 221 <220> FEATURE: 222 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH 4 sequence

226 gcuguuuccg aaauccagcu gaugcacggu ggugguggug guggugguuc cauggaacgu 60 227 guugaauggc ugcguaaaaa acugcaggac guu 230 <210> SEQ ID NO: 16 231 <211> LENGTH: 93 232 <212> TYPE: RNA 233 <213> ORGANISM: Artificial Sequence 235 <220> FEATURE:

236 <223> OTHER INFORMATION: Description of Artificial Sequence: modified PTH

237 sequence 239 <400> SEQUENCE: 16

225 <400> SEQUENCE: 15

240 gcuguuuccg aaaucggugg uggugguggu ggugguggug gucugaacuc cauggaacgu 60 241 guugaauggc ugcguaaaaa acugcaggac guu

244 <210> SEQ ID NO: 17 245 <211> LENGTH: 34

246 <212> TYPE: PRT

247 <213> ORGANISM: Homo sapiens

249 <400> SEQUENCE: 17

250 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn

10 5

253 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His 25 20 254

256 Asn Phe

260 <210> SEQ ID NO: 18

261 <211> LENGTH: 34

262 <212> TYPE: PRT

263 <213> ORGANISM: Homo sapiens

265 <400> SEQUENCE: 18

266 Ala Val Ser Glu His Gln Leu Leu His Asp Lys Gly Lys Ser Ile Gln 15

10 5

269 Asp Leu Arg Arg Phe Phe Leu His His Leu Ile Ala Glu Ile His 270 20

272 Thr Ala

276 <210> SEQ ID NO: 19

277 <211> LENGTH: 37

278 <212> TYPE: PRT

279 <213> ORGANISM: Homo sapiens

281 <400> SEQUENCE: 19

282 His Ser Asp Gly Ile Phe Thr Asp Ser Tyr Ser Arg Tyr Arg Lys Gln

285 Met Ala Val Lys Lys Tyr Leu Ala Ala Val Leu Gly Lys Arg Tyr Lys

DATE: 08/14/2001

```
TIME: 12:17:17
                PATENT APPLICATION: US/09/475,158
                Input Set : A:\0609 4780001 seq list.txt
                Output Set: N:\CRF3\08142001\I475158.raw
                                                          30
                                      25
286
288 Gln Arg Val Asn Lys
             35
289
292 <210> SEQ ID NO: 20
293 <211> LENGTH: 28
294 <212> TYPE: PRT
295 <213> ORGANISM: Homo sapiens
297 <400> SEQUENCE: 20
298 His Ser Asp Ala Val Phe Thr Asp Asn Tyr Thr Arg Leu Arg Lys Gln
                                          10
                      5
299
      1
301 Met Ala Val Lys Lys Tyr Leu Asn Ser Ile Leu Asn
                 20
302
305 <210> SEQ ID NO: 21
306 <211> LENGTH: 29
307 <212> TYPE: PRT
308 <213> ORGANISM: Homo sapiens
310 <400> SEQUENCE: 21
311 Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln
                                          10
                       5
314 Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg
                                      25
                 20
315
318 <210> SEQ ID NO: 22
319 <211> LENGTH: 27
320 <212> TYPE: PRT
321 <213> ORGANISM: Homo sapiens
324 <400> SEQUENCE: 22
325 His Ala Asp Gly Val Phe Thr Ser Asp Phe Ser Lys Leu Leu Gly Gln
                       5
328 Leu Ser Ala Lys Lys Tyr Leu Glu Ser Leu Met
                  20
329
332 <210> SEQ ID NO: 23
333 <211> LENGTH: 31
334 <212> TYPE: PRT
335 <213> ORGANISM: Homo sapiens
337 <400> SEQUENCE: 23
338 His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu Gly
                       5
                                          10
341 Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly
                                      25
                  20
342
345 <210>. SEQ ID NO: 24
346 <211> LENGTH: 29
347 <212> TYPE: PRT
348 <213> ORGANISM: Homo sapiens
350 <400> SEQUENCE: 24
351 His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
352
354 Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr
                  20
358 <210> SEQ ID NO: 25
```

RAW SEQUENCE LISTING

Please Note: `

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

DATE: 08/14/2001 TIME: 12:17:18

PATENT APPLICATION: US/09/475,158

Input Set : A:\0609 4780001 seq list.txt
Output Set: N:\CRF3\08142001\I475158.raw

L:1065 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 L:1105 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43